CLAIMS:

1. A catheter insertable device comprising

a self-expanding stent configured to lodge in a pulmonary vein proximate to the ostium thereof to provide circumferential support of said vein,

said stent including an ablation region along at least a portion its length for surface contact with the pulmonary vein and said ablation region subtending at least a substantially complete circumferential band, whereby application of energy to the stent ablates a path effective to block signals generated within the vein from passing the ostium.

2. The device of claim 1, wherein said ablation region comprises a winding at the proximal end of said stent.

3. The device of claim 2, wherein said stent includes a proximal portion having a diameter greater than the pulmonary vein, and a distal portion having a diameter for seating within the pulmonary vein, said proximal portion including said ablation region and being adapted to bear against an endocardial surface of the posterior left atrium to ablate a blocking lesion outside the pulmonary vein.

4. A catheter device comprising

an elongated catheter body extending to tip assembly for delivering a stent to a position in a vessel

a stent carried in said tip assembly, the stent being self-expanding and configured to lodge in a pulmonary vein proximate to the ostium thereof, and wherein the stent includes a first region along its length for ablative surface contact with the pulmonary vein, said first region subtending a substantially complete circumference of the pulmonary vein interior wall, whereby application of energy to the stent ablates a circumferential path effective to block signals generated within the vein from conduction across the ostium.

5. The catheter device of claim 4, wherein the catheter includes an energy delivery line extending to said tip assembly, and means for releasably connecting the energy delivery line to the stent.

6. The catheter device of claim 5, wherein said means for releasably connecting

includes a fusible link.

7. The catheter device of claim 6, wherein said means for releasably connecting includes a mechanical linkage.

8. A system for treating atrial fibrillation comprising

a delivery catheter

a stent carried by the catheter for delivery and placement to a tissue region proximate to the tip of the catheter, said stent being sized and configured for stenting a pulmonary vein and wherein the stent includes a conductive portion extending around a loop for bearing against and conductively contacting surrounding tissue when the stent is deployed in said vein, and

wherein the delivery catheter includes

an energy supply line extending to the distal end of the catheter and

means for temporarily connecting the energy supply line to the stent when the stent is deployed in the vein so as to ablate a tissue region and block conduction from the venous wall to the heart, and thereafter disconnect the energy supply from the stent leaving the stent in position to prevent stenosis.

9. The system of claim 8, wherein the conductive portion lies in a proximal region of the stent and is configured to bear against and ablate a blocking lesion in posterior endocardial wall of the atrium.

10. A method of treating atrial fibrillation, such method comprising the steps of

placing a stent in a pulmonary vein, and

energizing at least a portion of the stent to ablate a blocking line proximate the os.

11. The method of claim 10, wherein said portion is positioned to ablate a circumferential blocking lesion of the pulmonary vein wall.

12. The method of claim 10, wherein said portion is positioned to ablate a blocking lesion in posterior left atrium endocardial surface tissue substantially surrounding the os.

13. A method of treating a pulmonary vein of a patient, such method comprising the steps of

providing a stent having a proximal portion and having a distal portion, the distal portion having a size and configuration to anchor in and support the wall of a pulmonary vein, and the proximal portion having a diameter larger than the distal portion, wherein the stent is configured for catheter delivery in a compact state and expansion to said size and configuration such that when released from the catheter the proximal portion contacts the vessel os or the wall of the atrium while the distal portion prevents stenosis of the pulmonary vein.

14. The method of claim 13, further comprising the step of connecting an ablation source to the proximal portion to ablate a substantially circumferential blocking lesion and block conduction of a trigger signal from the pulmonary vein to the atrium.